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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

KERNS, KEVIN P

ART UNIT

PAPER NUMBER

1725

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/783,405	Applicant(s) NEWCOMB ET AL.	
	Examiner Kevin P. Kerns	Art Unit 1725	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☒ Claim(s) 6,13 and 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 February 2004 and 30 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>2/20/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: angle β (Figure 4). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the

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examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to because the drawings (except Figure 1) should include appropriate shadings to denote contrasting types of materials (e.g. metal, sand etc. shown in Figure 1) -- see page 600-99 of MPEP 608.02 and 37 CFR 1.84(m). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 6, 13, and 14 are objected to because of the following informalities: in these claims, insert "to" after "perpendicular". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-7, 11-17, 19, 22, and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1, 3-5, 11, 12, 16, 17, 19, 22, and 25, it is unclear what is meant by the limitation "double-curved", as it appears as though only a single curve (flattened "C-shaped" portion) is present for each or both portions of the mold seat, and not an "S-shaped" portion -- which is what a "double-curved" portion would imply.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section

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351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 8-10, 21, 23, 24, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Helgesen et al. (US 5,771,955).

Helgesen et al. disclose a casting mold comprising a core assembly for casting engine blocks and a method for making the assembly, in which the method of assembly includes providing a plurality of barrel cores 18 (analogous to first and second mold seats) having respective conical surfaces (chamfers 58), and providing a cast-in cylinder bore liner 10, such that the liner 10 includes an axis and first and second conical (angled) chamfer surfaces in a seated position absent thermal expansion, while movement of the liner 10 is constant, both linearly and radially, during thermal expansion (abstract; column 2, lines 18-54; column 3, line 18 through column 7, line 52; and Figures 1, 4, and 6).

9. Claims 8-10, 21, 23, 24, and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Baranzke (US 6,363,995).

Baranzke discloses a casting device and method for manufacturing an engine block, in which the device and method include providing a mantle seat surface 11 of a slightly conical mandrel 12 comprising first and second conical mold seat surfaces (13,14), and providing a cast-in cylinder liner 5, such that the liner 5 includes an axis and first and second conical (angled) chamfer surfaces in a seated position absent thermal expansion, while movement of the liner 5 is in gliding contact during thermal

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expansion (abstract; column 1, lines 6-11 and 33-67; column 2, lines 1-31 and 50-67; column 3, lines 1-67; column 4, lines 1-33; and Figures 1-4).

10. Claims 8-10, 21, 23, 24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by Singer et al. (US 6,527,040).

Singer et al. disclose a method and casting mold device for casting of engine blocks, in which the method and device include providing a barrel crankcase core 14 comprising first and second mold seats having respective conical surfaces (chamfers 14f), and providing a cast-in cylinder bore liner 15, such that the liner 15 includes an axis and first and second conical (angled) chamfer surfaces 15f in a seated position absent thermal expansion, while movement of the liner 15 is constant, both linearly and radially, during thermal expansion (abstract; column 3, lines 21-58; column 4, line 44 through column 12, line 34; and Figures 3A-3F).

The applied reference has a common assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claims 1-7, 11-20, 22, and 25 insofar as definite (in view of the 35 USC 112, 2nd paragraph rejections) are rejected under 35 U.S.C. 103(a) as being unpatentable over any one of Helgesen et al. (US 5,771,955), Baranzke (US 6,363,995), or Singer et al. (US 6,527,040) in view of Helgesen (US 5,320,158).

Helgesen et al., Baranzke, and Singer et al. individually disclose the features of claims 8-10, 21, 23, 24, and 26 above. Neither Helgesen et al., Baranzke, nor Singer et al. discloses a mold seat with a "double-curved" surface and tangential contact in the seated position.

However, Helgesen ('158) discloses a method and casting mold for manufacturing an engine block having recessed cylinder bore liners, in which the method and casting mold include providing a barrel core (analogous to first and second mold seats) having outer surfaces that contact a cast-in cylinder bore liner 100, such that the liner 100 includes an axis and first and second "double-curved" surfaces 115 of differing curvatures, including spherical and toroidal segments (see Figure 1A, 2, 3, and 6-9), to be positioned in a tangential seated position absent thermal expansion, while movement of the liner 100 is constant, both linearly and radially, during thermal expansion, with the additional features being advantageous for providing an improved method of making an engine block with recessed cylinder bore liners, thus resulting in additional finishing operations being performed on a unimetallic surface (abstract; column 2, lines 10-65; column 3, line 44 through column 5, line 46; and Figures 1A, 2, 3, and 6-9).

It would have been obvious to one of ordinary skill in the art at the time the applicants' invention was made to modify any one of the casting devices and methods disclosed individually by any one of Helgesen et al., Baranzke, or Singer et al., by using the mold seat with a "double-curved" surface and tangential contact in the seated position, as taught by Helgesen ('158), in order to obtain an engine block with recessed cylinder bore liners, thus resulting in additional finishing operations being performed on a unimetallic surface (Helgesen '158; abstract; column 2, lines 60-65).

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Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kevin P. Kerns whose telephone number is (571) 272-1178. The examiner can normally be reached on Monday-Friday from 8:00am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on (571) 272-1171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin P. Kerns *Kevin Kerns 10/13/05*
Primary Examiner
Art Unit 1725

KPK
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October 13, 2005